DUEL TO THE DEATH BETWEEN SHARK AND SWORDFISH

Alarmed Sailors in Small Boat Watch a Terrific Combat Between These Two Fierce Ocean Dwellers

OUR fishing smack, anchored off the Florida coast, was lazily rolling in the gentle swells of the sea, with its idle sails flapping nd anchor chain squeaking dismally. A nall boat had put off from the vessel nd two of the rowers were watching veral of the crew disporting in the warm ater. With them was a powerful New- undland dog whose thrashing and bark- g added to the interest of the scene.

Suddenly one of the rowers glancing ward the distant shore caught sight of peculiar trail of foam that seemed to e advancing rapidly. For a moment he as silent and thoughtful, but when the nlike projection above the water came to full view he set up a yell of warning.

"Sharks Sharks!"

That was sufficient to electrify the wimmers. With one accord they swam ith all their might toward the small oat. They reached it and were hauled board by their companions before the hark could get within striking distance.

But not so with the dog. Not realizing he danger, the Newfoundland barked nd swam around the boat, accepting the alls of the men as a part of the game. leanwhile the shark approached rapidly nd the men could see the big dorsal fin leaving the water like a knife.

But it seemed impossible to rescue the og in time. The great man eater knew his and it never for an instant checked s course. When within a few yards of he frantic dog the fin disappeared below he surface and every man knew that the hark was sinking to make the fatal lunge.

At the very moment one of the men aught the dog by the collar the open aws of the shark, with their double row f incurving teeth, swept upward. There emed no chance to prevent a tragedy, ut one of the sailors, quick witted and lert, thrust a long oar straight down at e terrible jaws.

More through luck than premeditation e heavy oar struck the lower jaw a ancing blow and then slipped directly to the mouth. There was a snap and a rk which nearly threw the sailor over- oard.

When he raised the oar from the water was to find it snapped in two as cleanly if cut by an axe. The next minute the en hauled the dripping, panting New- undland dog into the boat.

They tried to frighten the big man eater way with their oars, splashing and shout- g vigorously, but the shark was not ightened by this demonstration. It as too enraged by the wound it had re- ived from the blade of the oar and too ngry to retreat at once.

While these tactics were going on the wers were so intently watching the ark that they took little note of any- ing else. Suddenly another long, owerfully built creature swam leisurely etween the boat and the angry shark. t looked for an instant like another huge an eater, except that it was slenderer.

Apparently attracted by the commo- on, the newcomer swept close to the oat to get a good view. The shark at e same instant, having been defeated in its attempts to get at its prey, turned iciously upon the other fish.

Its anger and blindness apparently ade it less cautious than usual. With swift movement it lunged toward the her fish, and its powerful jaws snapped gether just as its prey caught sight of it nd darted forward.

The next moment a long, powerful wordfish leaped a foot out of the water nd began thrashing the sea into a white am. The water was instantly dyed rimson. In its upward leap the sailors ad seen that part of its tail was missing. The shark had caught the swordfish, f guard and snapped off fully six inches its tail. It was from this wound that e blood came.

Now the swordfish is usually a quiet eature, rarely ascending to the surface nd disposed to let other finny inhabitants of the deep alone if they do not molest it. But when in search of food or when its anger is aroused by an attack it is capable of executing some pretty rapid and long sustained motions.

With a movement so swift that the eye could barely follow it through the water, the giant swordfish dashed toward the shark with its powerful lance aimed for the other's vitals. But sharks are quick acting fish too, and the big man eater thrown suddenly on the defensive dodged and completely turned over.

The sword struck it a slanting blow on the side and ripped a surface wound a yard long. At the same moment the jaws of the shark snapped viciously, and another portion of the lacerated tail was snipped off.

The two combatants remained thus for ten seconds, facing each other and waiting for the next round. The sailors, forgetting their own danger, watched the two fighters with fascinated gaze.

Once more the swordfish began the attack. With incredible swiftness it turned and darted away, as if disgusted with the fight, and then swung around and came for the shark at the speed of a railroad train.

The shark knew that it was powerless to avoid that terrible sword except by dodging. When the swordfish was within a yard of it the man eater sprang upward and tried to escape the deadly weapon. Fully two feet out of the water the shark leaped.

FULLY TWO FEET OUT OF THE WATER THE SHARK LEAPED.

But once more the sword raked its side, cutting and tearing through skin and flesh until the blood poured forth in a stream. This second wound brought all the fighting blood of the shark to the surface.

Taking advantage of the muddled water created by the commotion, it plunged downward to a great depth, and then sprang upward with the huge jaws extended. The swordfish lost sight of it for an instant, and barely escaped being cut in two as the double row of teeth closed.

There was another swift and dexterous move on the part of the swordfish to escape. But this time the teeth grazed its side and ripped a piece of skin from it.

The shark, taking advantage of the situation, made a frantic close quarter attack. It snapped and lunged viciously, missing the swordfish each time by only a fraction of an inch. The latter dodged and leaped sideways to escape the cruel jaws.

The fight was so fierce that neither combatant could keep up the pace for long. At one moment the two big creatures floundered around on the surface of the water, and the next dropped entirely out of sight, but the foaming water rising to the surface showed that there was no letup in the struggle.

Always now it was the shark that was pursuing and the swordfish that was dodging and trying to retreat. They sank at one time so far down that the sailors concluded they had seen the last of the combat. Then with the swiftness of an arrow the swordfish leaped upward and cleared the surface of the water by a yard. The shark was close behind, its jaw dripping with blood and its beady eyes flashing viciously. Then down again they plunged and around the boat they raced several times.

But their efforts were beginning to tell upon their strength. The attack was less vicious, and the dodging of the swordfish was slower and less dexterous. It was bleeding from half a dozen wounds.

Suddenly the swordfish swept toward the boat as if it intended to plunge straight through it, but it dipped at the critical moment and disappeared under it. Close behind it the shark came, and followed beneath the boat.

But it was less accurate in its movements, and its body struck the bottom of the boat in a resounding whack. Temporarily disconcerted by this accident, the shark turned to snap angrily at the thing that had struck its head.

That interruption, short as it was, gave the swordfish the time to gain on its pursuer. When it reappeared on the opposite side of the boat it swerved sharply and darted away to a safe distance.

It was out of harm's way now, for in a test of speed and endurance the shark could not hope to win. Once more the watchers expected to see the combat terminate by the retreat of the discomfited swordfish.

For nearly five minutes the two combatants appeared almost motionless in the water. From the sides of each little crimson eddies ascended, showing how badly both had been injured. It was a drawn battle and both seemed disinclined to renew the conflict. But clearly one of them had to be the victor. It was a repetition of the old tragedy of the survival of the fittest.

The swordfish slowly moved off with scarcely a perceptible swish of tail or fins. It seemed as if it was being moved by some under water force that had no connection with its body.

Perhaps a hundred feet away it checked its movements and once more lay quiet. The shark watched it carefully and anxiously. It knew better than the sailors the meaning of these tactics. It knew the spirit and ferocity of its enemy better than any human being.

The swordfish began to circle around again in a quick, jerky way, as if trying its power of speed. The shark remained stationary, waiting for the attack. With ever increasing circles and speed the swordfish continued its movements. Its speed at times seemed almost incredible. It swept in a clean circle around the boat, plunged deep into the water and then leaped up toward the surface.

Apparently satisfied that it still had the speed and strength necessary for a continuance of the fight, it approached closer to its waiting enemy. It played tag with the shark for a few moments, dashing in and away as if to test its courage but at such a distance that the shark made no effort to pursue.

Then suddenly with a swish of its fins the swordfish turned and darted straight for the shark. It never swerved once from a straight line but shot forward like an arrow from a bow. It was more like a flash of sunlight in the water than the movement of a live fish.

The shark saw the approaching attack and once more sought to dodge the terrible sword. But this time, either through clumsiness or weakness, it was slow in its movements. It delayed its jump a second too long.

There was a thud, a violent impact of something hard against flesh and then a mighty commotion of the water. The two big fish thrashed about so violently that for a moment the watchers could not tell which had the advantage.

Blood and foam were whipped together. The waves created by the struggle rocked the boat. When for an instant the two combatants ceased their fighting the men got a glimpse of the true state of affairs.

The sword of the smaller creature was sunk to the very hilt in the body of the shark, the end protruding from the opposite side. The blow had been delivered squarely in the side of the shark and it was doomed.

There was an ineffectual struggle on the part of the shark to pull away from its adversary. It thrashed the water violently with its tail, gasped and spurted blood from its mouth and then lay quite still on the surface.

The blow was mortal and death came quickly. The big, heavy body was seen to jerk and move violently even after death, but the movements were caused by the swordfish trying to withdraw its long lance. Again and again it jerked and tried to back away from its enemy. But the sword was too deeply embedded in the flesh.

Its loss of blood and the fearful wounds it had received from the shark rendered the swordfish helpless. Its own mortal wound had been delivered before the last attack, and it was now only a matter of time before it would succumb.

Out of mercy for the victorious creature the sailors rowed up to the two and with a few well directed blows on the head with their oars they put the swordfish out of its agony. No strength which they could exert would serve to release the sword.

Later the two carcasses were towed to the side of the ship and the shark was cut in half before the sword could be removed. By actual measurement it proved to be nearly four feet in length, and the big man eating shark weighed over a ton and a half in bone and flesh.

TO-MORROW WILL BE CENTENARY OF THE GREATEST EARTHQUAKE IN THE HISTORY OF THE COUNTRY

TO-MORROW, December 16, is the centenary of the New Madrid earthquakes in the great central Mississippi Valley. Should the region from Cairo to Memphis again be shaken it would be definitely prophesied recurrence of the convulsions which affected the same area 100 years ago and 200 years ago. Scientists have said that succeeding earthquakes should be expected at intervals of a century. The area comprises an unstable geologic formation, which has what may be called the earthquake disease.

It seems a curious coincidence that this very territory is the same area which has suffered most severely from the recent great floods of the Mississippi River. This, however, is merely a instance of cause and effect, for the last great earthquake which visited the region resulted in the formation of the "Sunk Lands," and thus rendered them the most susceptible to flooding.

Now, what would the average person designate as the greatest earthquake in the history of the United States?

"Why, unquestionably," nine out of ten people would say, "either the recent San Francisco earthquake or the Charleston, S. C., quake in 1886."

No, neither of them. These earthquakes are world famous because of the loss that they caused and the suffering that followed in their wake; but in severity and extent of disturbance they are not to be compared with what is known as the New Madrid earthquake of the Mississippi Valley, which, during the year following December 16, 1811, wrought great changes in the surface of the land. The Charleston and San Francisco disturbances were national disasters because they affected the congested population and the structures in two important cities. The New Madrid earthquake left no marked impression on the history of the country, because, although far more severe and prolonged, it occurred in a sparsely settled and at that time unimportant region. The destructive period of the San Francisco quake occupied only a few minutes; that in the lower Mississippi Valley persisted at intervals for more than a year.

But this is somewhat ancient history, it may be remarked. It is that; but history repeats itself, and the significant phase of the New Madrid earthquake is that it was not the first to affect the same area, that it occurred in what is known among men of science as an earthquake area, that the indications are that what has occurred in the past will recur in the future. The geological evidence is indisputable that the New Madrid earthquake of 1811 was only one of several such disturbances to which this region had been subjected.

As to the chance of a recurrence of the New Madrid earthquake some years ago the late Nathaniel S. Shaler of the United States Geological Survey had this to say:

"Analogies indicate the probability of the recurrence of the New Madrid earthquake within a century, since in all these countries which have been visited by great convulsions, where observation has extended over a great length of time, it has been found that their visits must be expected as often as once in a hundred years."

This century referred to by Prof. Shaler will complete itself on Monday, December 16. The hundredth year will then have gone by, but it is to be hoped that the New Madrid area will be an exception to the general rule.

Any earthquake originating at or near the centre of the New Madrid disturbance would, according to geologists of the United States Geological Survey, be felt in such towns as Hickman, Ky.; Caruthersville, New Madrid, Campbell and others in Missouri, and Jonesboro, Marked Tree, Osceola and others in Arkansas. Memphis is within thirty-five miles of some of the largest fissures in the whole region. Cairo is also within the area that might be affected. St. Louis might also feel the shock.

The area which was affected by the earthquake of a century ago lies irregularly along the Mississippi River from Cairo, south to Memphis. The magnitude of the disturbance will be realized when it is stated that throughout half of the entire expanse of the United States the vibrations could be plainly felt.

As described by the geographer Flint, who visited the area a few years after the shocks, the country exhibited a melancholy aspect of chasms, of formerly rich lands covered two or three feet deep with sand, of trees thrown down or lying tipped at an angle of 45 degrees or split in the middle. Descriptions of the occurrence in a report of the United States Geological Survey say that the earth rolled in waves several feet high, with deep depressions between the swells, finally bursting and leaving parallel fissures extending for distances as great as five miles in some cases and from twenty to thirty feet wide. At one point the Mississippi River was broken in two, admitting great quantities of water into new formed chasms which immediately closed, giving rise to waves of great size. From many of the fissures sand and water were forcibly extruded.

Many forms were in whole or in part precipitated into the streams, others were covered by extruded waters and still others were depressed or sunk and overflowed. Great wreckage occurred on the Mississippi River, and entire islands disappeared, notably Island No. 94, near Vicksburg. Near New Madrid a fault or land slip occurred, which stretched entirely across the Mississippi, creating a waterfall from six to eight feet high.

Prof. Shaler describes depressions in Obion county, Tennessee, 100 feet deep and varying from a few feet to 100 feet wide. Large areas in what is known as the St. Francis Basin sank bodily many feet, and they are now known as the "Sunk Lands." The famous Reelfoot Lake and Lake St. Francis were thus formed.

The English geologist Lyell and others who visited the Sunk Lands some years after the earthquake describe the submergence of forests of cypress, saying that they could paddle their boats among the branches and that "there are large trees of walnut, white oak and mulberry, such as grow on high land, which are now submerged ten to twenty feet beneath the water."

On the other hand certain areas were uplifted. River channels which were frequented by deep draught boats are now dry land, and islands were also formed. M. L. Fuller of the United States Geological Survey estimates that the earthquake destroyed 150,000 acres of forest. The forest area now comprising Reelfoot Lake alone originally covered about seventy-five square miles of forest, and swamps formed at the time west of the Mississippi probably covered 125 square miles more.

Besides these submerged forests, in other great areas the timber was utterly ruined by landslides. The published accounts of the time tell of the disorder of the trees, which cracked and split, falling by thousands at a time. The United States Geological Survey has published a bulletin containing a detailed account of the New Madrid earthquake.

At one point Mr. Fuller found a great oak which escaped destruction in 1811 and which stands to-day at the base of an ancient fissure or earthquake chasm. The tree is at least 200 years old, so that the former earthquake was at least 100 years before the 1911 disaster. Indian traditions also point to earthquakes throughout the same region in earlier times.

Mr. Fuller's own conclusion is at best a negative one. While admitting that such an earthquake area as the New Madrid region is likely to be affected at any time, no one can prophesy, he says, with any accuracy when such an outbreak may be expected, and he expresses the hope that the catastrophe may be long deferred.

Earthquake Cracking

Shaded Portion Shows Chronic Earthquake Area. Dotted Line, Flood Area.

Chaos Produced by Earthquake Slippings